A PHOTOGRAPHIC GUIDE TO

SNAKES
AND OTHER REPTILES OF
BORNEO

Indraneil Das

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80 McKenzie Street, Cape Town 8001, South Africa
Unit 1, 66 Gibbes Street, Chatswood, New South Wales, Australia 2067
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Senior Editor: Krystyna Mayer (2011 edition)

Project Editor: Gareth Jones
Editor: Robert Watts
Designer: Gülen Shevki-Taylor
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Contents

Introduction

The island of Borneo stretches between co-ordinates 04°S–07°N and from 109–119°E and sits on the Sundas Shelf. It is the second largest tropical island in the world (after New Guinea), and covers a land area of approximately 743,380km^2. A major part of Borneo (539,460km^2) lies within Kalimantan, which belongs to the Republic of Indonesia. Other political units within the island are the east Malaysian states of Sarawak (124,450km^2), Sabah (73,710km^2) and the Sultanate of Brunei Darussalam (5,760km^2).

At 4,101m, Low's Peak in Gunung Kinabalu, northern Sabah, is the highest peak on Borneo. The summit of Kinabalu shows evidence of glaciation, including polished and grooved rock surfaces. The highest mountain in Sarawak, at 2,423m, is Gunung Murud. The Subis limestone complex of Niah, Sarawak, was home to early hominids, about 40,000 years before present. A spectacular limestone formation, including extensive cave systems, is to be found in the Gunung Mulu region of Sarawak.

Several of the largest rivers of south-east Asia flow through Borneo. Important rivers of the Sarawak region – which all drain into the South China Sea – include the Baram and the Lupar. Significant rivers of Sabah include the Segama and the Kinabatangan. Kalimantan's great rivers include the Kapuas, Barito, Kahayan, Kayan and Mahakam. Many of the coastal rivers are broad and meandering.

Borneo lies within the tropics and the equator crosses this great island approximately over Pontianak in Kalimantan. The island is

characterized by relatively high, equitable temperature and heavy rainfall, which is spread virtually throughout the year. The relatively wetter periods are observed during the passage of the north-east monsoons (November–April), although the south-west monsoons (April–August) also bring rainfall to the area. Daytime temperatures in most parts of the low-lying areas are 30–32°C, and humidity is typically high. Annual precipitation is in the range 4,000–5,000mm. A major influence of short-term climatic fluctuations in Borneo and across the Indo-Pacific region is the El Niño, which brings uncontrolled forest fires, leading to haze, water shortage and loss of crops, land and life. The advent of the north-east monsoons between December–February brings much precipitation to the area.

Vegetation

The plant life of Borneo is characterized by high species diversity and low endemism, the latter attributed to the land connection during the lowered sea-levels of the Pleistocene. For instance, the Kinabalu flora itself comprises as many as 5,000–6,000 species, including over 1,000 genera and 200 families. The richest forests of south-east Asia are in north-western Borneo, north of Sungei Kapuas in the west, encompassing the north-east portion of Sarawak, Brunei and the south-western lowlands of Sabah. The region is, in geological terms, relatively young, has a rugged topography, comprising mostly infertile shallow soils, compared to other areas of Borneo.

Vegetational zonation here is best known from Gunung Kinabalu. The lowland forest is six-layered, with emergent trees and sparse undergrowth. The upper boundary of lowland rainforest is at about 1,200m, where the majority of emergent trees – comprising primarily the dipterocarps – disappear from the canopy. The lower montane forest is five-layered, lacking emergents. The upper limit of the lower montane forest is 2,000–2,350m; that of the upper montane forest, between 2,800–3,000m. The upper montane forest has a dense herbaceous layer. The upper limit of the lower subalpine coniferous forests is 3,400m, which is sparse in undergrowth and lower in height. Fragmented upper subalpine forests occur at an altitude of 3,700m. Above this is a zone of alpine rock-desert, with scattered communities of alpine scrub.

Important forest types include mixed dipterocarp forest from the yellow-red soils in the uplands, dominated by *Dryobalanops lanceolata*, *Shorea parviflora*, *Dryobalanops aromatica* and *Dipterocarpus globosus*. The lower montane and upper montane forests are also remarkable in their structure and composition. Canopy height is reduced, sometimes to 18–30m, with few emergent trees; buttressed trees are less common, and there is an absence of large woody climbers, but a great abundance of vascular epiphytes. Moss vegetation, with an abundance of bryophytes, in addition to gnarled trees, characterise the upper limits of montane forests. Upper montane forests also have trees with small, leathery leaves and conifers.